**IN THE CLAIMS:**

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with strikethrough. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claim 29 in accordance with the following:

1. (Withdrawn) A digital broadcasting signal transmission apparatus that receives, encodes, and transmits a video signal, an audio signal, and additional information data, the digital broadcasting signal transmitting apparatus, comprising:

a video analyzing portion that determines a video bit rate allocated to the video signal and an additional information data bit rate allocated to the additional information data in accordance with the video signal, and outputs the determined video and additional information data bit rates;

a video encoder that encodes the video signal in accordance with the determined video bit rate; and

a data formatting portion that receives the additional information data in accordance with the determined additional information data bit rate, and converts the received additional information data into a predetermined data broadcasting format.


2. (Withdrawn) The digital broadcasting signal transmitting apparatus of claim 1, wherein said video encoder generates information about video characteristics of the video signal, and said video analyzing portion determines the video bit rate allocated to the video signal and the additional information data bit rate allocated to the additional information data using the video signal and the information about the video characteristics of the video signal.

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3. (Withdrawn)  The digital broadcasting signal transmitting apparatus of claim 2, wherein the information about the video characteristics of the video signal comprises at least one of a quantizing level, a motion vector, and an average quality of the video signal.

4. (Withdrawn)  The digital broadcasting signal transmitting apparatus of claim 1, wherein said data formatting portion adds header information indicating the additional information data bit rate to an output bit stream of the additional information.

5. (Withdrawn)  The digital broadcasting signal transmitting apparatus of claim 1, wherein said video analyzing portion comprises:

a screen analyzing portion that analyzes a complexity of the video signal, and outputs the analyzed complexity of the video signal;

a motion analyzing portion that calculates a difference between respective screens in the video signal, calculates a degree of motion of the screen based on the calculated difference, and outputs the calculated result about the degree of the motion; and

a bit rate determining portion that receives the information about the video characteristics from said video encoder, and also receives the information about the complexity and the degree of the motion of the screen, and determines the video signal and the additional information data bit rates using the received information.

6. (Withdrawn)  The digital broadcasting signal transmitting apparatus of claim 1, wherein said video analyzing portion comprises a bit rate determining portion that determines the video signal bit rate and the additional information data bit rate using only the data of the video characteristics input from said video encoder.

7. (Withdrawn)  A broadcasting signal encoding apparatus that receives and encodes

broadcasting data, comprising:

a broadcasting data analyzing portion that analyzes a complexity of the broadcasting data, and determines an amount of user data to be inserted into a user data region of the broadcasting data;

a user data inserting portion that receives additional information data and inserts the additional information data into the user data in accordance with the determined amount of the user data to be inserted into the user data region as user data; and

a transmitting portion that transmits the encoded broadcasting data and the inserted user data including the additional information data.

8. (Withdrawn) The broadcasting signal encoding apparatus of claim 7, wherein the broadcasting data is video data.

9. (Withdrawn) The broadcasting signal encoding apparatus of claim 7, wherein the broadcasting data is audio data.

10. (Withdrawn) A broadcasting signal decoding apparatus that receives and decodes broadcasting data containing encoded video data, encoded audio data, and encoded data of additional information, the broadcasting signal decoding apparatus comprising:

a user data outputting portion that detects user data in the received broadcasting data, and outputs the user data; and

a data decoding portion that receives the output user data, and decodes the received user data to decode the data of the additional information.

11. (Withdrawn) The broadcasting signal decoding apparatus of claim 10, wherein said user data outputting portion comprises:

a first dividing portion that divides the received broadcasting data into video data, audio data, and data of the additional information; and

a second dividing portion that detects and outputs the user data from one of the video data and the audio data received from the first dividing portion.

12. (Withdrawn)   A broadcasting signal decoding apparatus that receives broadcasting data containing encoded video data, encoded audio data, and encoded data of additional information, the broadcasting signal decoding apparatus comprising:

a user data outputting portion that outputs user data from one of the video and audio data of the received broadcasting data;

an additional information data decoding portion that receives and decodes the data of the additional information from the broadcasting data; and

a user data decoding portion that receives and decodes the output user data.

13. (Withdrawn)  The broadcasting signal decoding apparatus of claim 12, wherein said user data outputting portion comprises:

a first dividing portion that divides the broadcasting data into video data, audio data, and data of additional information; and

a second dividing portion that outputs user data from one of the video data and audio data.

14. (Withdrawn) The broadcasting signal decoding apparatus of claim 12, further comprising an adder that adds first data decoded by said additional information data decoding portion and second data decoded by said user data decoding portion when the data of the additional information and the output user data have a same display format.

15. (Withdrawn) A digital broadcasting signal transmitting method for receiving and transmitting an encoded a digital broadcasting signal containing a video signal, an audio signal and data of additional information, the method comprising:

determining a video bit rate allocated to the video signal and an additional information bit rate allocated to the additional information in accordance with the video signal, and outputting the determined video and additional information bit rates;

encoding the video signal in accordance with the video bit rate allocated to the video signal; and

receiving the data of the additional information to the extent the additional information bit rate allocated to the additional information allows, and converting the received data of the additional information into a predetermined data broadcasting format,

wherein said determining the video and additional information bit rates further comprises:

analyzing a complexity of the video signal, and outputting the analyzed complexity of the video signal;

calculating a difference between respective screens from the video signal, and calculating a degree of motion of the screens based on the calculated difference, and outputting the calculated result about the degree of the motion; and

receiving the information about the video characteristics from the video encoder, receiving the information about the complexity and degree of motion of the screen, and determining the video and additional information bit rates for the video signal and for the additional information according to the received information.


16. (Withdrawn) A digital broadcasting signal transmitting method for receiving and transmitting an encoded a digital broadcasting signal containing a video signal, an audio signal and data of additional information, the method comprising:

determining a video bit rate allocated to the video signal and an additional information bit

rate allocated to the additional information in accordance with the video signal, and outputting the determined video and additional information bit rates;

encoding the video signal in accordance with the video bit rate allocated to the video signal; and

receiving the data of the additional information to the extent the additional information bit rate allocated to the additional information allows, and converting the received data of the additional information into a predetermined data broadcasting format,

wherein said determining the video and additional information bit rates further comprises determining the video bit rate for the video signal and the additional information bit rate for the additional information by using only the data about the video characteristics.

17. (Withdrawn)  A method of receiving and encoding broadcasting data using a digital broadcasting signal transmitting apparatus, the encoding method comprising:

analyzing a complexity of the received broadcasting data, and determining an amount of user data that is insertable;

receiving data of additional information for service and inserting  the data of the additional information as user data in the received broadcasting data in accordance with the determined amount of the user data that is insertable; and

transmitting the encoded broadcasting data having the inserted user data.

18. (Withdrawn) The encoding method of claim 17, wherein the broadcasting data comprises video data.

19. (Withdrawn)  The encoding method of claim 17, wherein the broadcasting data comprises audio data.

20. (Withdrawn)  The encoding method of claim 17, wherein the data of the additional information comprises video data.

21. (Withdrawn) The encoding method of claim 17, wherein the data of the additional information comprises audio data.

22. (Withdrawn)  The encoding method of claim 17, wherein the data of the additional information comprises data broadcasting data.

23. (Withdrawn)  A decoding method for receiving and decoding broadcasting data containing encoded video data, encoded audio data, and encoded data of additional information, the decoding method comprising:

outputting the data of the additional information from one of the encoded audio and video data of the broadcasting data; and

receiving and decoding the output data of the additional information.

24. (Withdrawn)  A decoding method for receiving and decoding broadcasting data containing encoded video data, encoded audio data, and encoded data of additional information, the decoding method comprising:

outputting user data from the broadcasting data; and

receiving the output user data and decoding the received user data to decode the data of the additional information.

25. (Withdrawn)  The decoding method of claim 24, wherein said outputting the user data further comprises:

first dividing the broadcasting data into the video data, the audio data, and the data of the

additional information; and

    second dividing one of the divided video data and the audio data to output the user data.

26. (Withdrawn) A decoding method for receiving and decoding broadcasting data containing encoded video data, encoded audio data, and encoded data of additional information, the decoding method comprising:

    outputting user data from the broadcasting data;

    receiving and decoding the data of the additional information; and

    receiving and decoding the output user data.

27. (Withdrawn) The decoding method of claim 26, wherein said outputting the user data further comprises:

    first dividing the broadcasting data into the video data, the audio data, and the data of the additional information; and

    second dividing one of the divided video data and the audio data to output the user data.

28. (Withdrawn) The decoding method of claim 26, further comprising adding the decoded data of the additional information and the decoded user data when the data of the additional information and the output user data are in the same display format.

29. (Currently Amended) A data encoder to encode first and second data, where the first data is encoded at a first bit rate below a threshold bit rate, the encoder comprising:

    a data analyzer to analyze the received first data and to determine the first bit rate and a second bit rate;

    a first data encoder to encode the first data at the first bit rate;

    a second data formatter to format the second data in accordance with the second bit

rate;

      a combiner unit to combine the encoded first data and the formatted second data to form a combined data to be output at the threshold bit rate,

      wherein the first data comprises a user data ~~portion~~region, wherein the formatted second data is inserted into the user data ~~portion~~region,

      wherein the first data is video data, and wherein the formatted second data is additional information data.

      30. (Original)  The data encoder of claim 29, further comprising third data, wherein said second data formatter further formats the third data at a constant third data bit rate.

      31. (Original)  The data encoder of claim 30, wherein the second and third data have different formats.

      32. (Original)  The data encoder of claim 30, wherein the second and third data have a same format and comprise an input data service.

      33. (Original)   The data encoder of claim 29, wherein said combiner unit comprises a transport stream multiplexer that multiplexes the encoded first data and the formatted second data to produce a transport stream.

      34. (Original)   The data encoder of claim 29, wherein the transport stream multiplexer further performs 8-vestigial band modulation to modulate the transport stream.

      35. (Canceled)

36. (Previously Presented)   The data encoder of claim 29, wherein the first data is video

data, and said data analyzer determines the first bit rate in accordance with a complexity of the

video data and motion information of the video data calculated in accordance with differences

between screens and degrees of information based upon the calculated differences.

37. (Previously Presented)  The data encoder of claim 29, wherein said data analyzer

determines the first bit rate in accordance with characteristics of the first data detected by said

first data encoder.

38. (Original)   The data encoder of claim 37, wherein the first data is video data, and the

characteristics detected by said first data encoder comprise one of quantizing levels of the video

data, motion vectors of the video data, and an average image quality of the video data.

39. (Canceled)

40. (Previously Presented)   The data encoder of claim 29, further comprising a buffer to

receive and store the encoded first data and the formatted second data to be inserted into the

user data portion of the encoded first data, and to output the combined data at a constant bit

rate.

41. (Previously Presented)  The data encoder of claim 40, wherein the first data

comprises video data, and said first data encoder comprises:

an NXN converting portion to convert the video data into data within a frequency range,

a quantizer to quantize the data within the frequency range received from the NXN

converting portion,

a variable field encoding portion to variable field encode the quantized data to produce

the encoded video data stored in said buffer, and

motion estimating and compensating portions to motion estimate and compensate the quantized data.


42. (Withdrawn) a data decoder for decoding encoded first and second data, the data decoder comprising:

a separator to receive the encoded first and second data as an encoded combined data having a constant bit rate, and to remove and separately output the encoded first and second data;

A first data decoder to detect the first bit rate and to decode the encoded first data encoded at the first bit rate;

A second data decoder to detect the second bit rate and to decode the encoded second data encoded at the second bit rate; and

a third data separator to receive and separate encoded third data and the encoded combined data, to output the encoded third data, and to output the encoded combined data to said separator,

Wherein

The constant bit rate comprises the combined first and second bit rates, and

Said third data separator outputs the third data to said second data decoder to be decoded and combined with the decoded second data